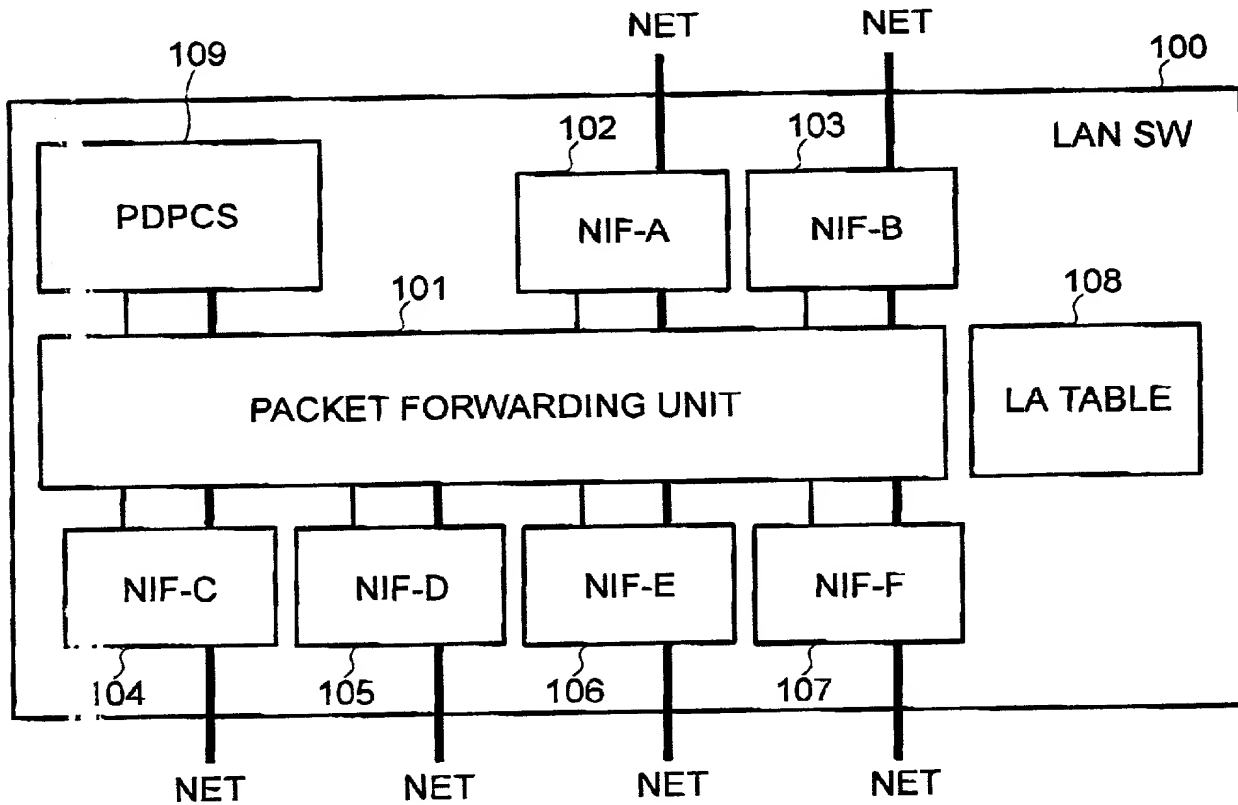
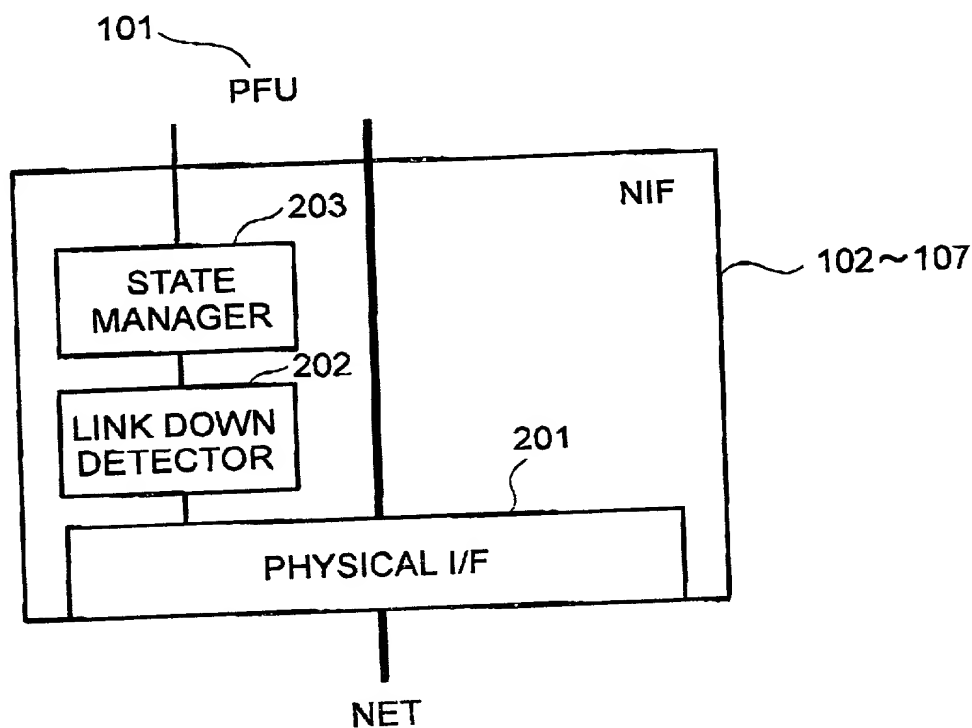


FIG.1



NIF : Network Interface
 PDPCS : Processor for Directive
 Packets to Change State
 LA : Learned Address

FIG.2

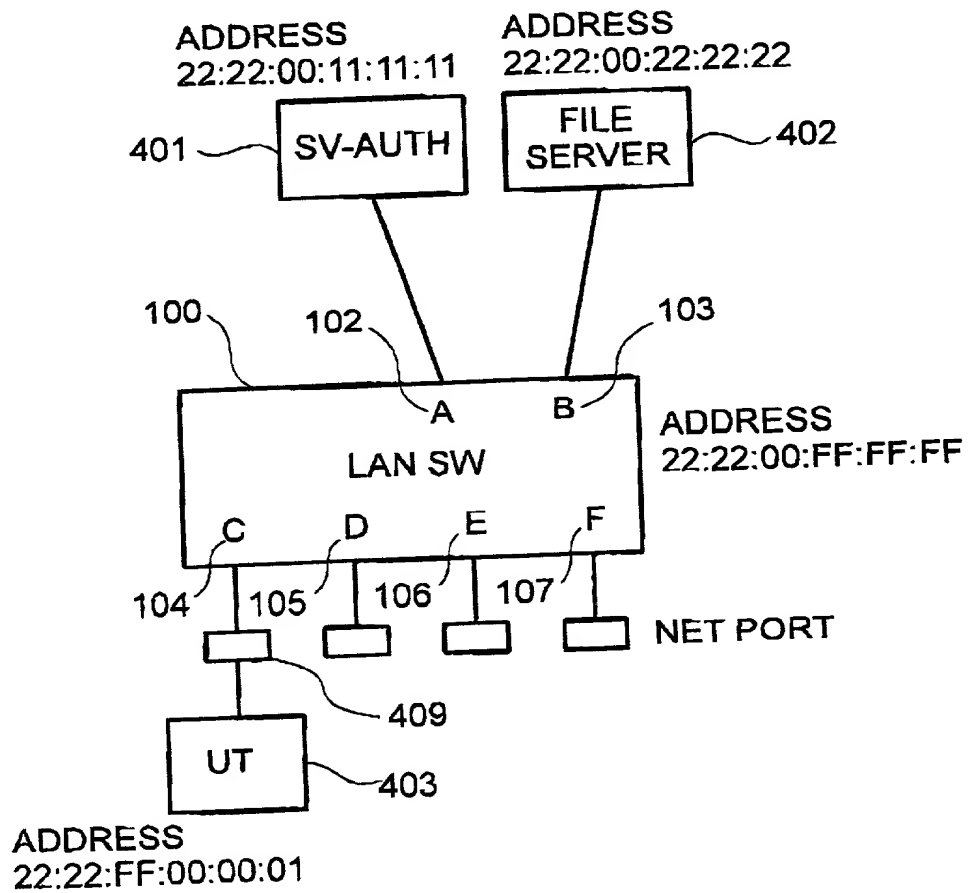


NIF : Network Interface
 I/F : Interface
 PFU : Packet Forwarding Unit

FIG.3

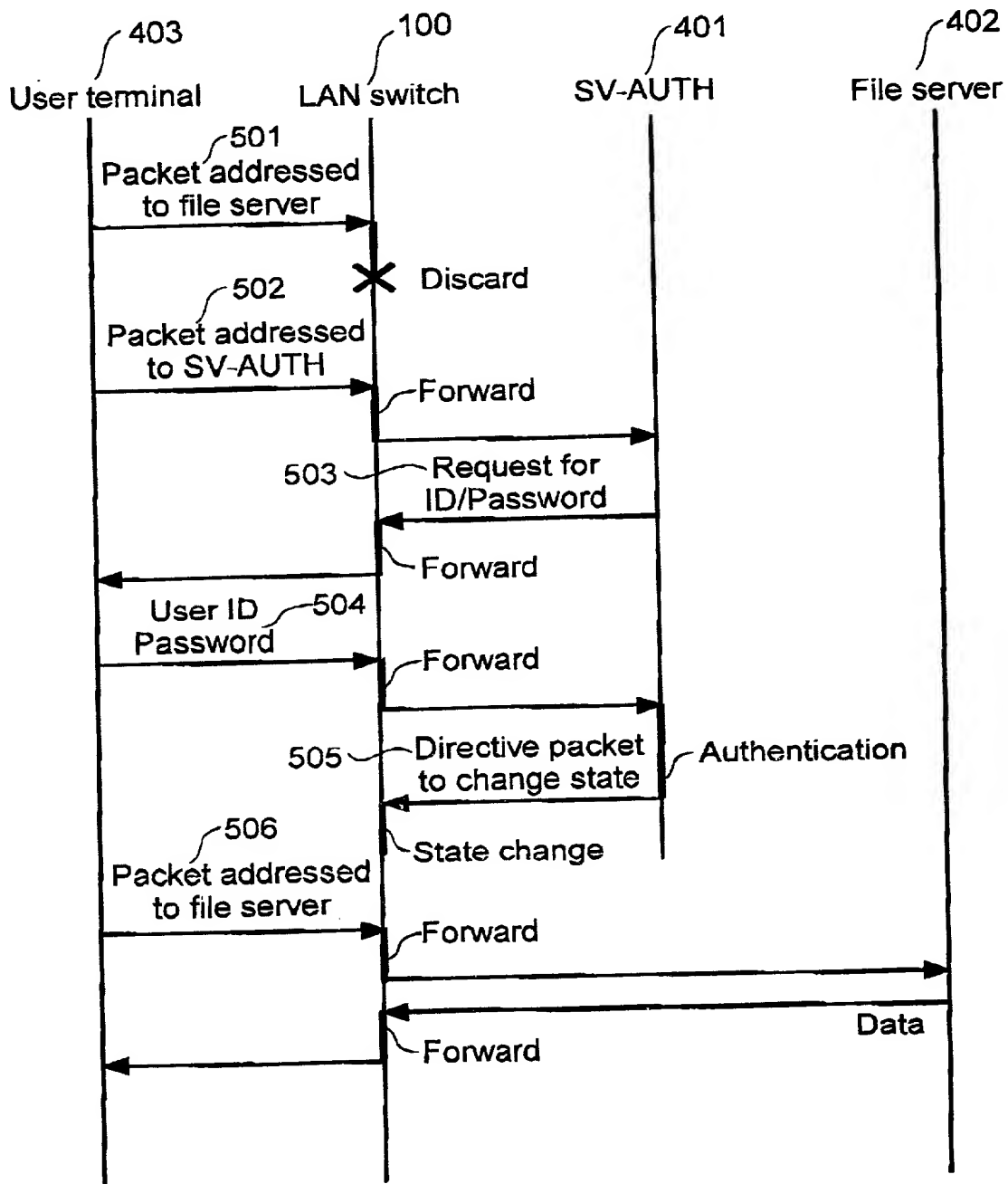
#	Address	Sending Port
1	22:22:00:11:11:11	A
2	22:22:00:22:22:22	B
3	22:22:00:FF:FF:FF	X

FIG.4



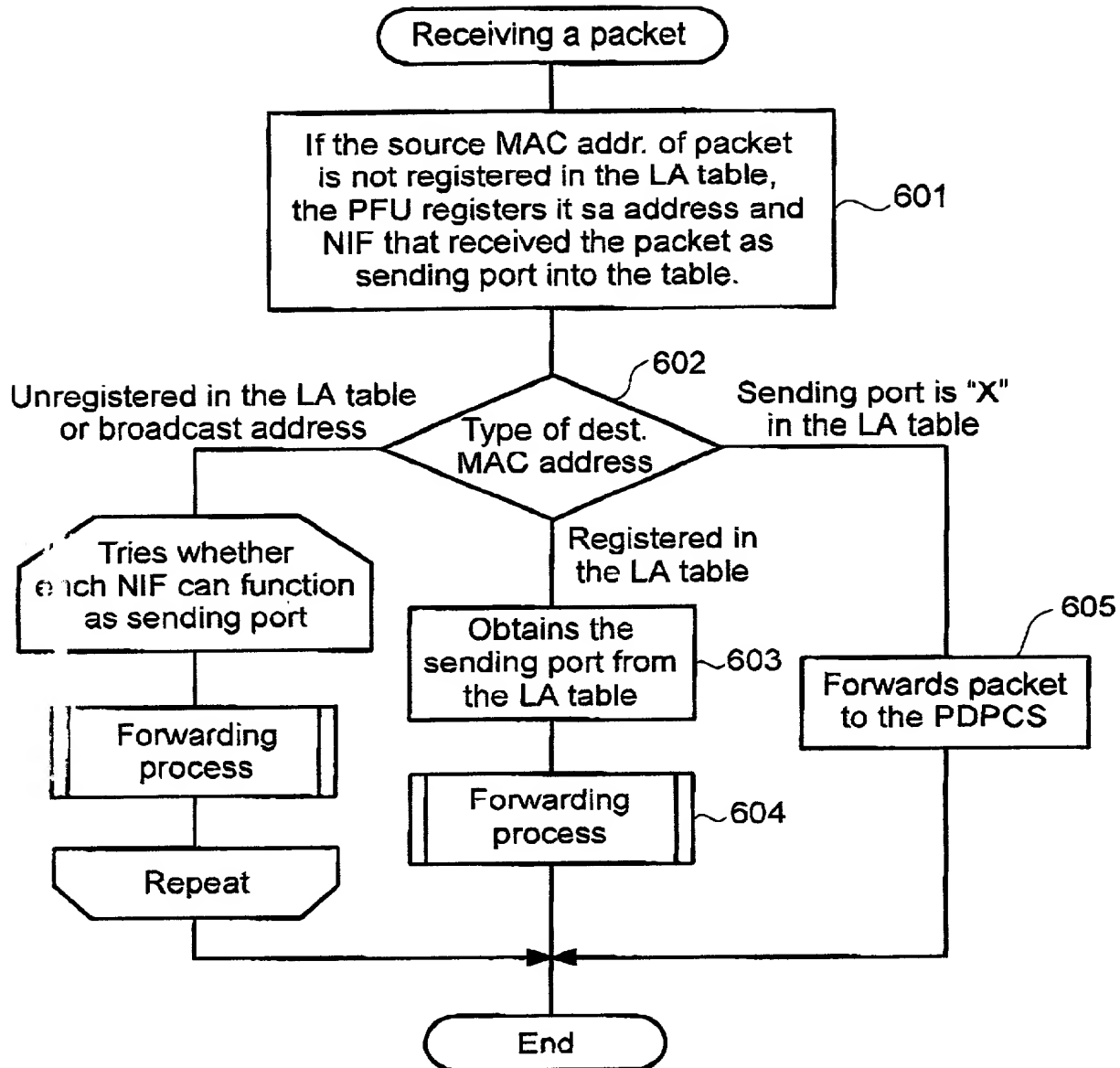
SV-AUTH : Server for Authentication
UT : User Terminal

FIG.5



SV-AUTH : Server for Authentication

FIG.6



LA : Learned Address
 NIF : Network Interface
 PFU : Packet Forwarding Unit
 PDPCS : Processor for Directive
 Packets to Change State

FIG.7

108 301 302

#	Address	Sending Port
1	22:22:00:11:11:11	A
2	22:22:00:22:22:22	B
3	22:22:00:FF:FF:FF	X
4	22:22:FF:00:00:01	C

FIG.8

Flow of forwarding

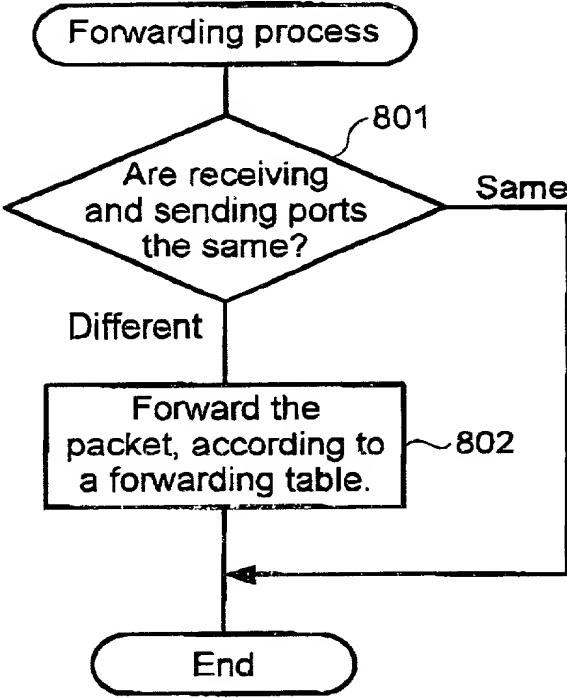


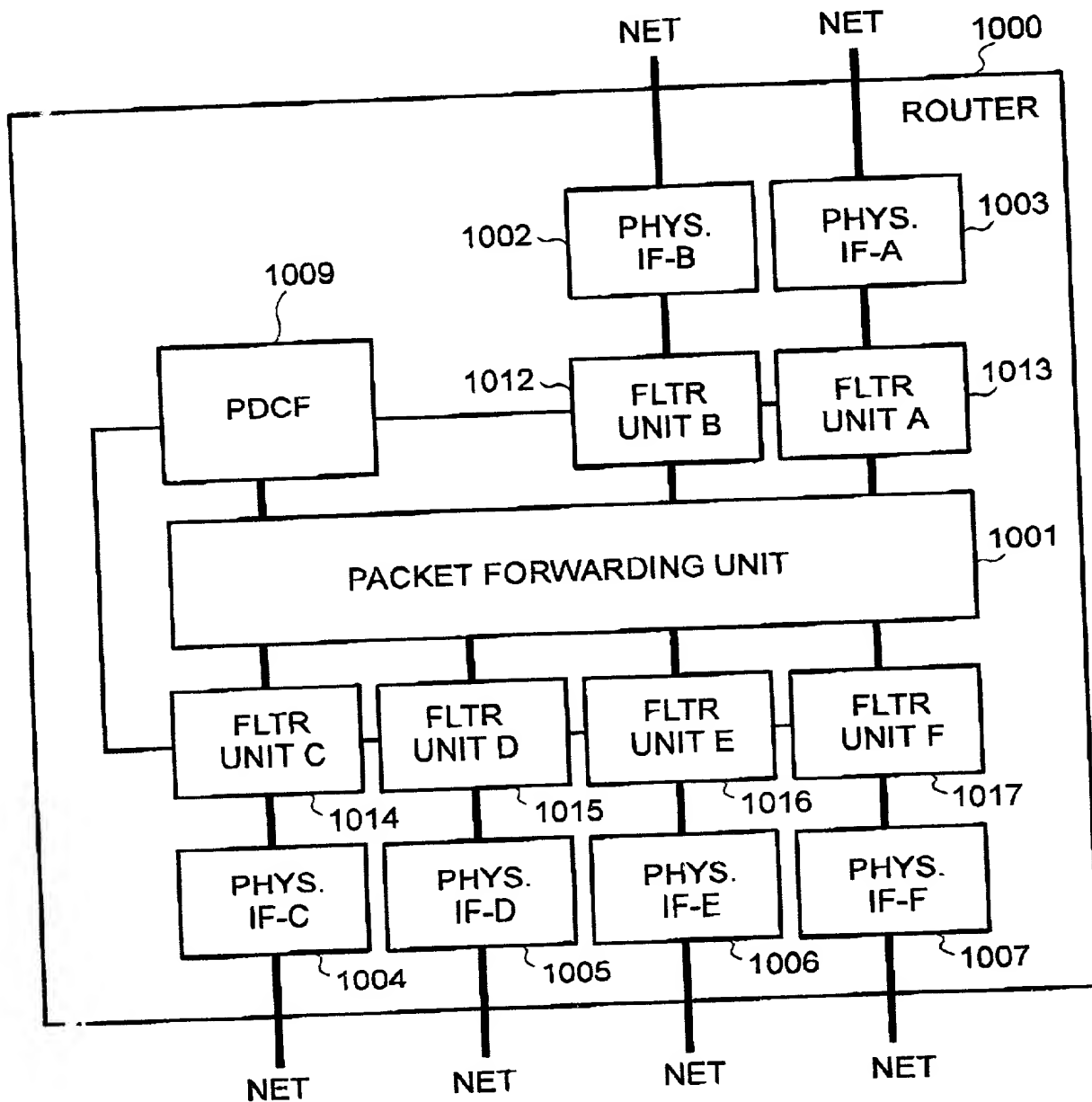
FIG.9

901

		State of Receiving Port		
		Connected	Disconnected	Stateless
State of Sending Port	Connected	Forward	Discard	Forward
	Disconnected	Discard	Discard	Forward
	Stateless	Forward	Forward	Forward

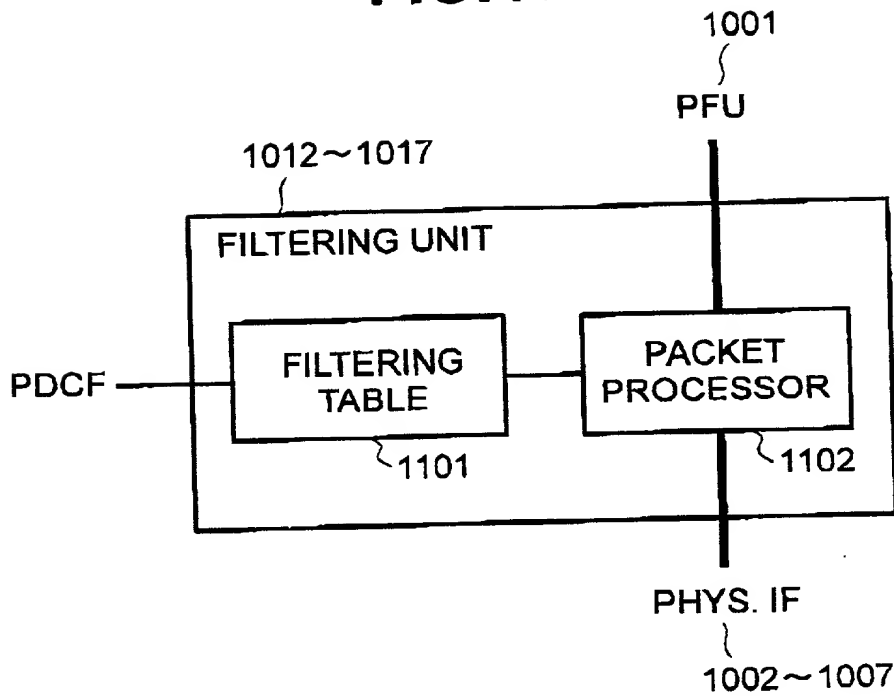
0933004-06304

FIG.10



PHYS-IF : Physical Interface
PDCF : Processor for Directives
to Change Filtering
FLTR : Filtering

FIG.11



PHYS. IF : Physical Interface
PDCF : Processor for Directives
to Change Filtering
PFU : Packet Forwarding Unit

FIG.12

#	Dest. Addr. Condition	Source Addr. Condition	Forward/Discard Flag
1	192.168.1.1	Arbitrary	Forward
2	Arbitrary	Arbitrary	Discard

FIG.13

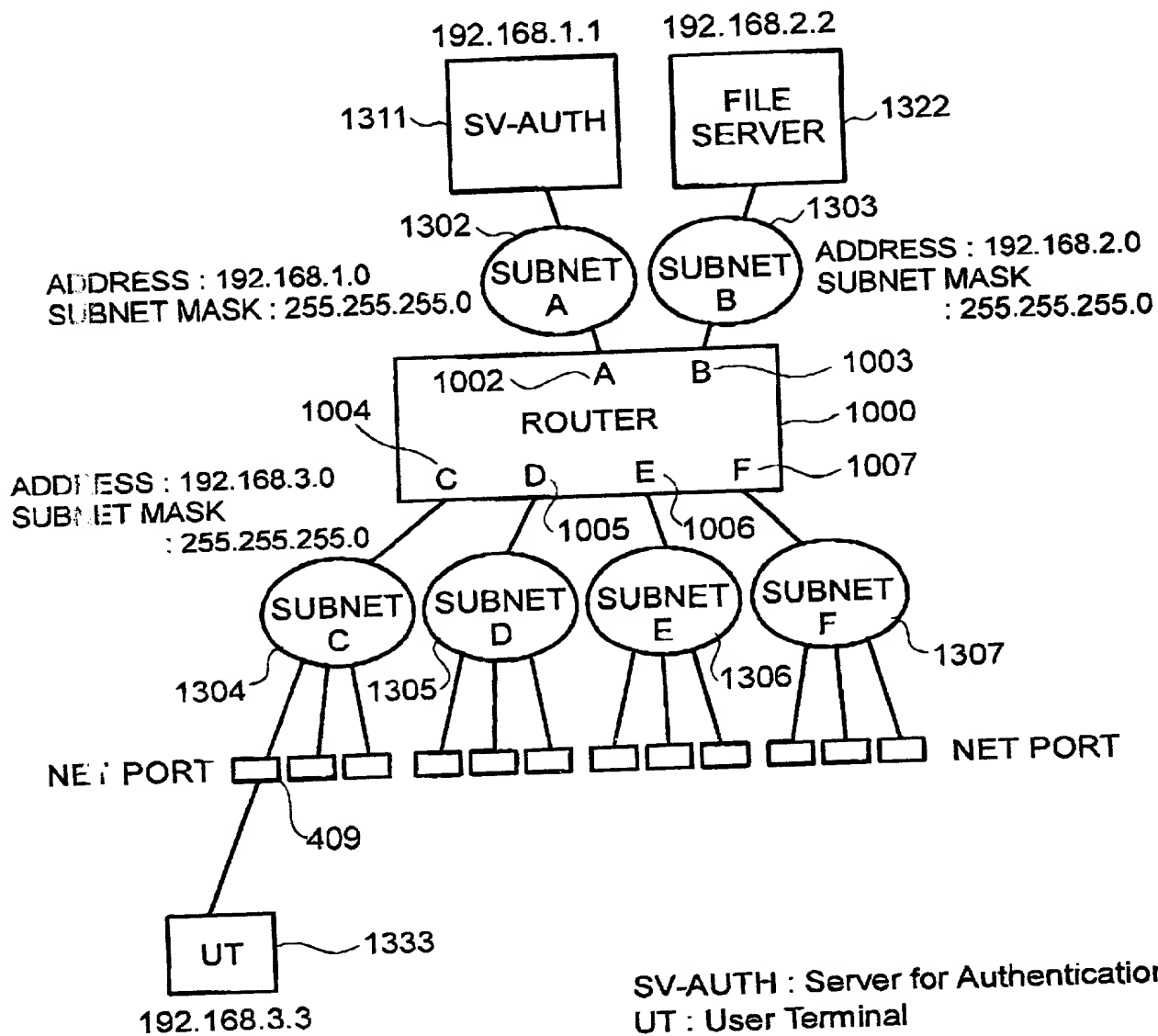
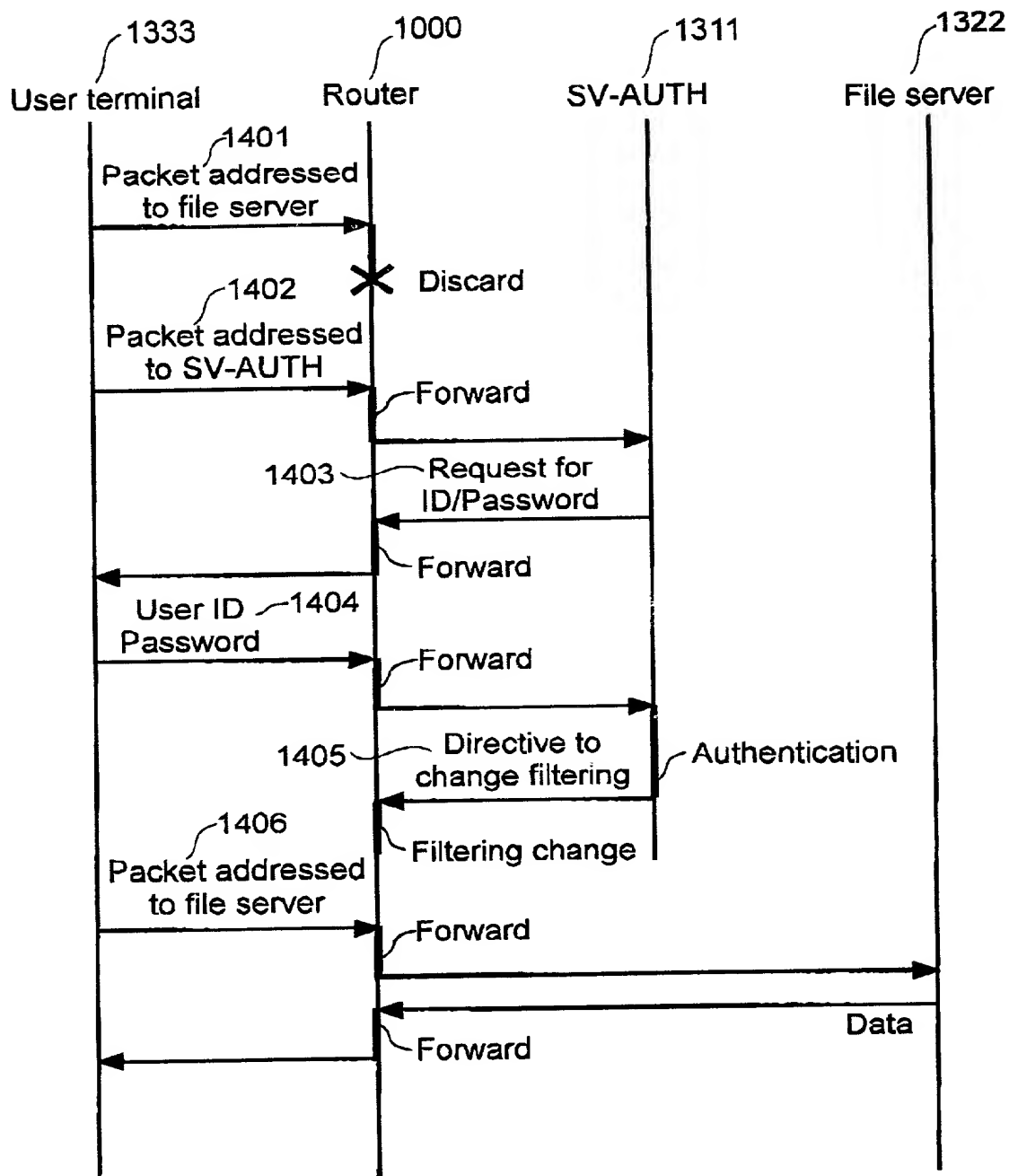


FIG.14

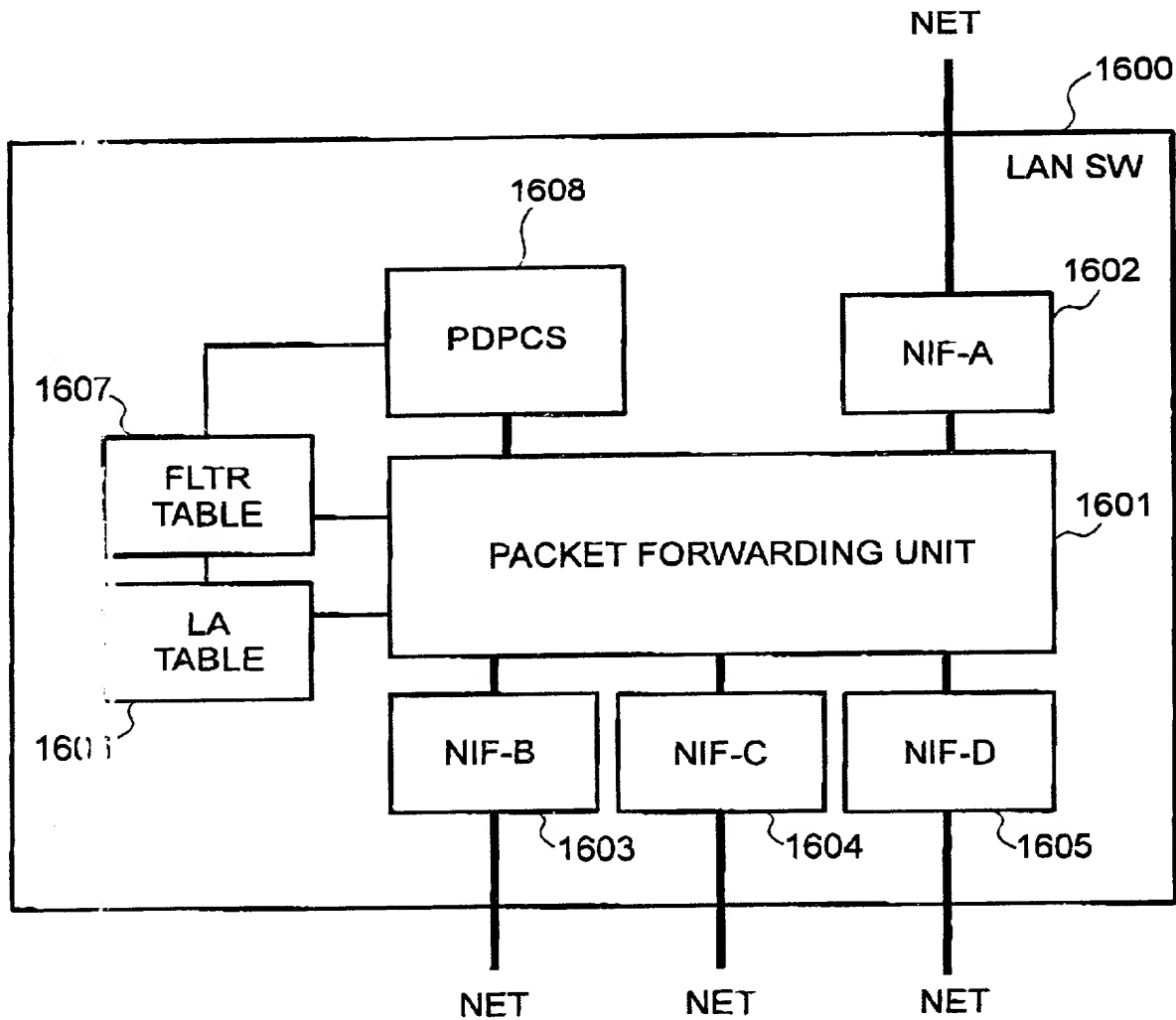


SV-AUTH : Server for Authentication

FIG.15

1101 #	1201 Dest. Addr. Condition	1202 Source Addr. Condition	1203 Forward/Discard Flag
1	Arbitrary	192.168.3.3	Forward
2	192.168.1.1	Arbitrary	Forward
3	Arbitrary	Arbitrary	Discard

FIG.16



NIF : Network Interface
 PDP : Processor for Directives
 Packets to Change State
 FLTR : Filtering
 LA : Learned Address

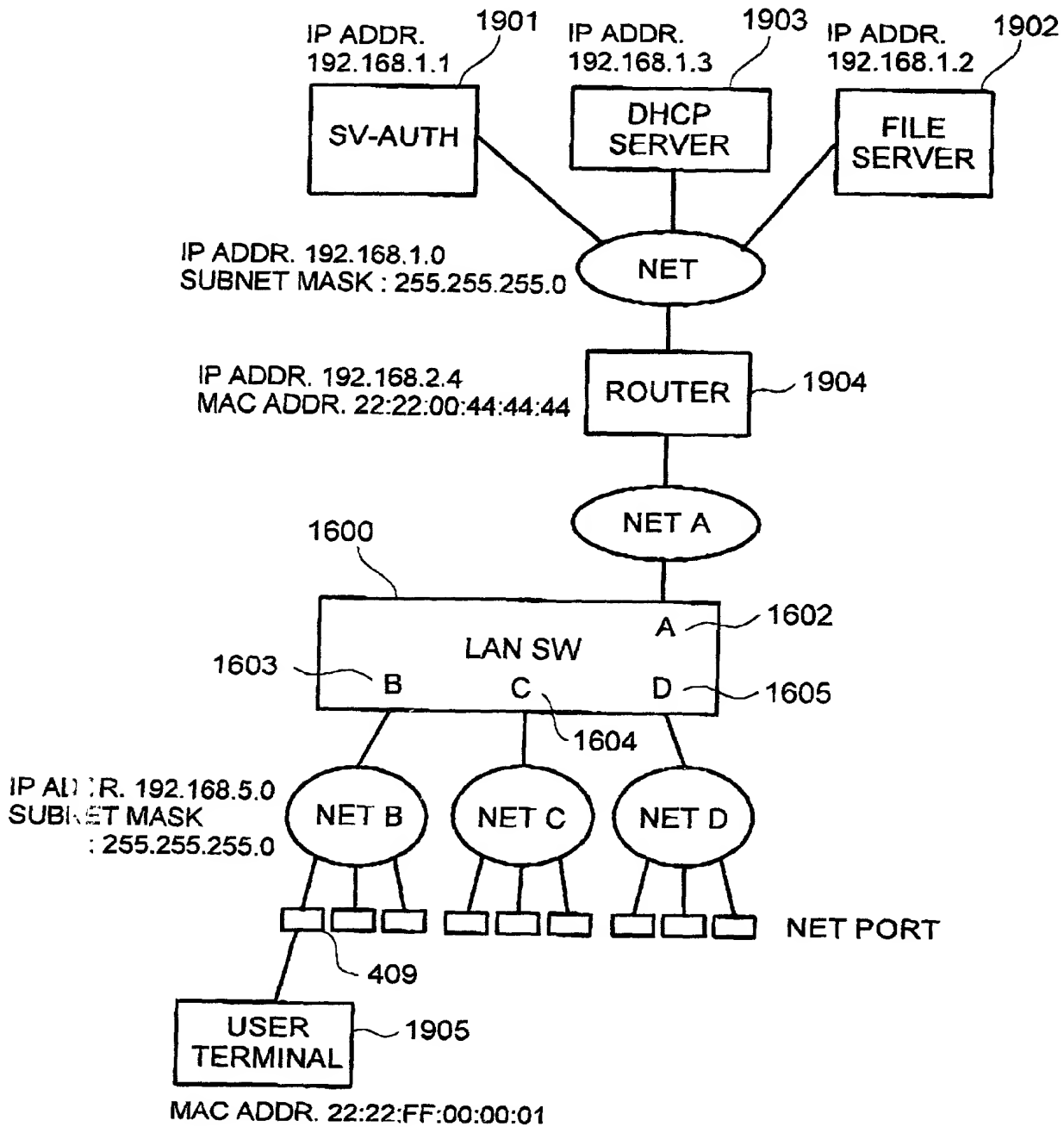
FIG.17

1607	1701	1702	1703
#	MAC Address	IP Address	Connection Port
1	22:22:FF:00:00:01	Unregistered	B

FIG.18

1606	1801	1802
#	MAC Address	Connection Port
1	22:22:00:44:44:44	A

FIG.19



SV-AUTH : Server for Authentication

FIG.20

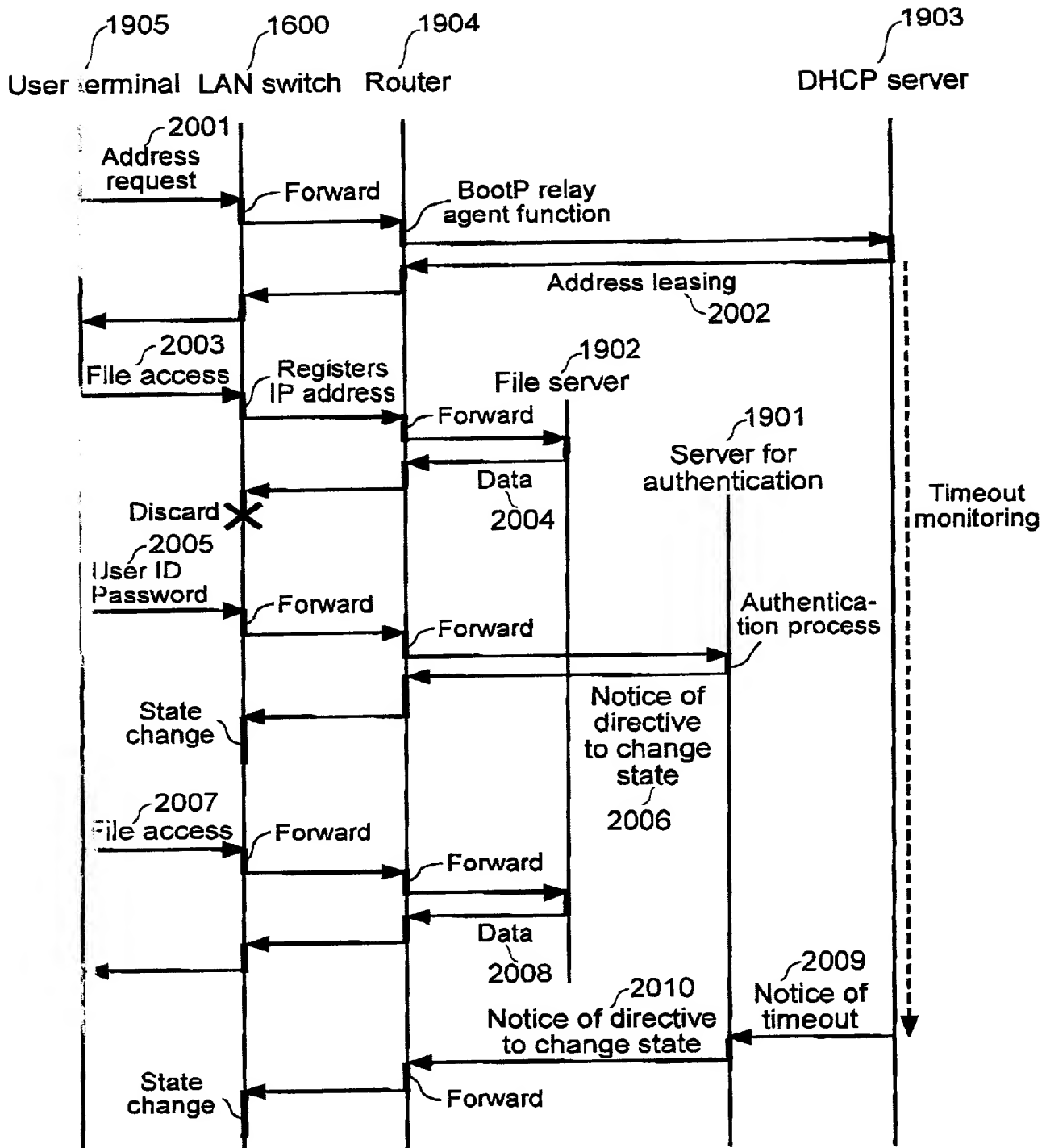


FIG.21

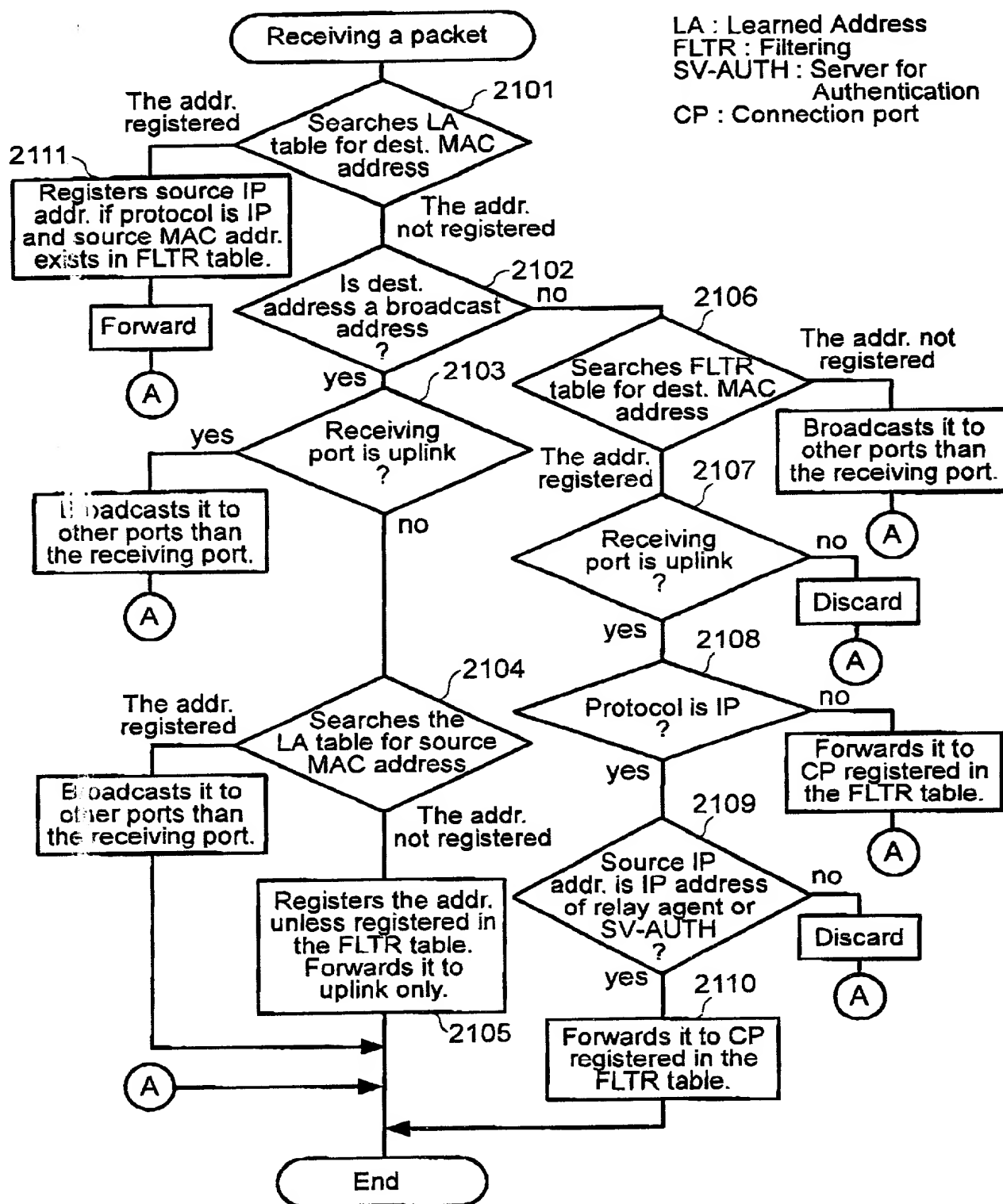


FIG.23

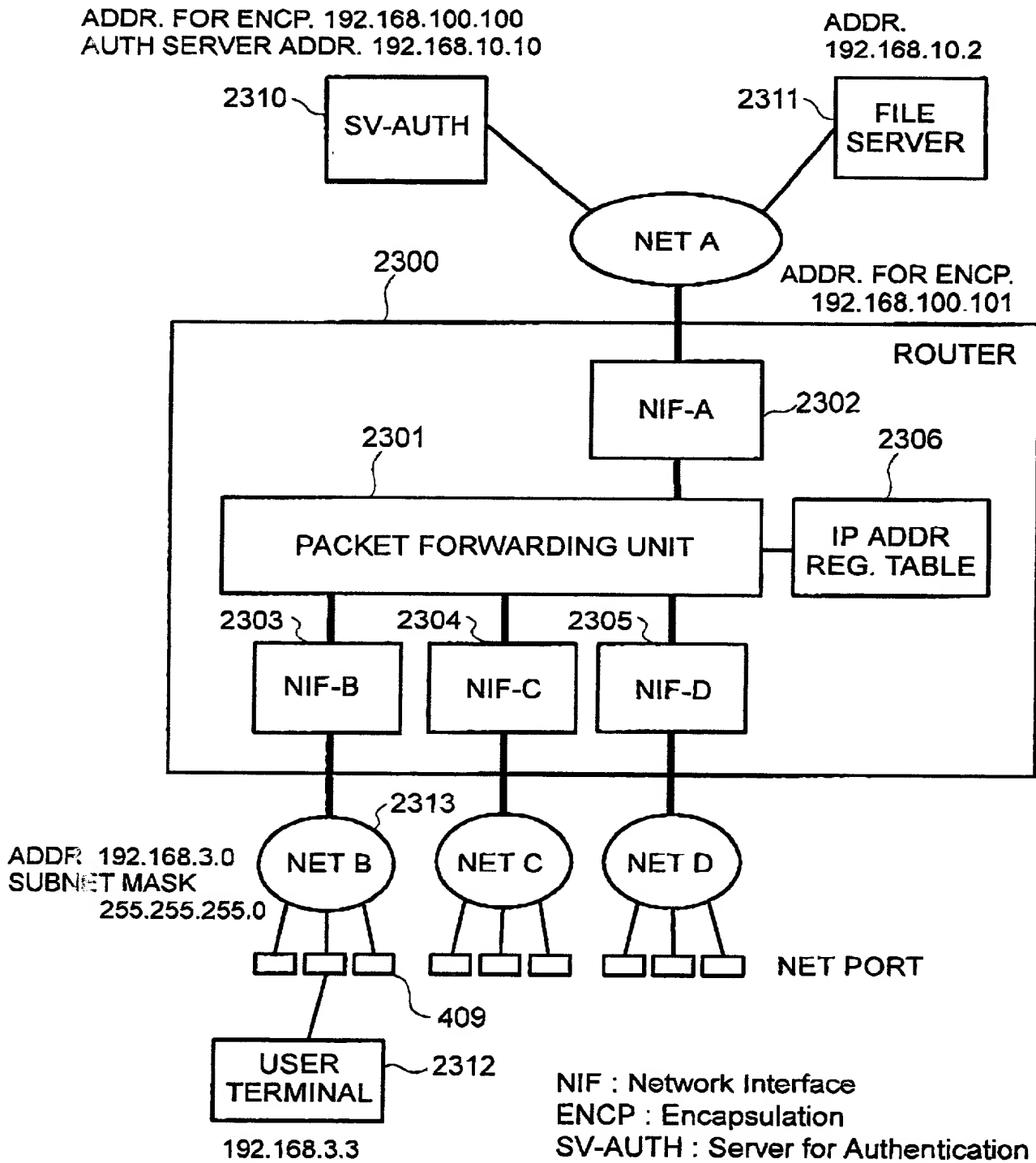
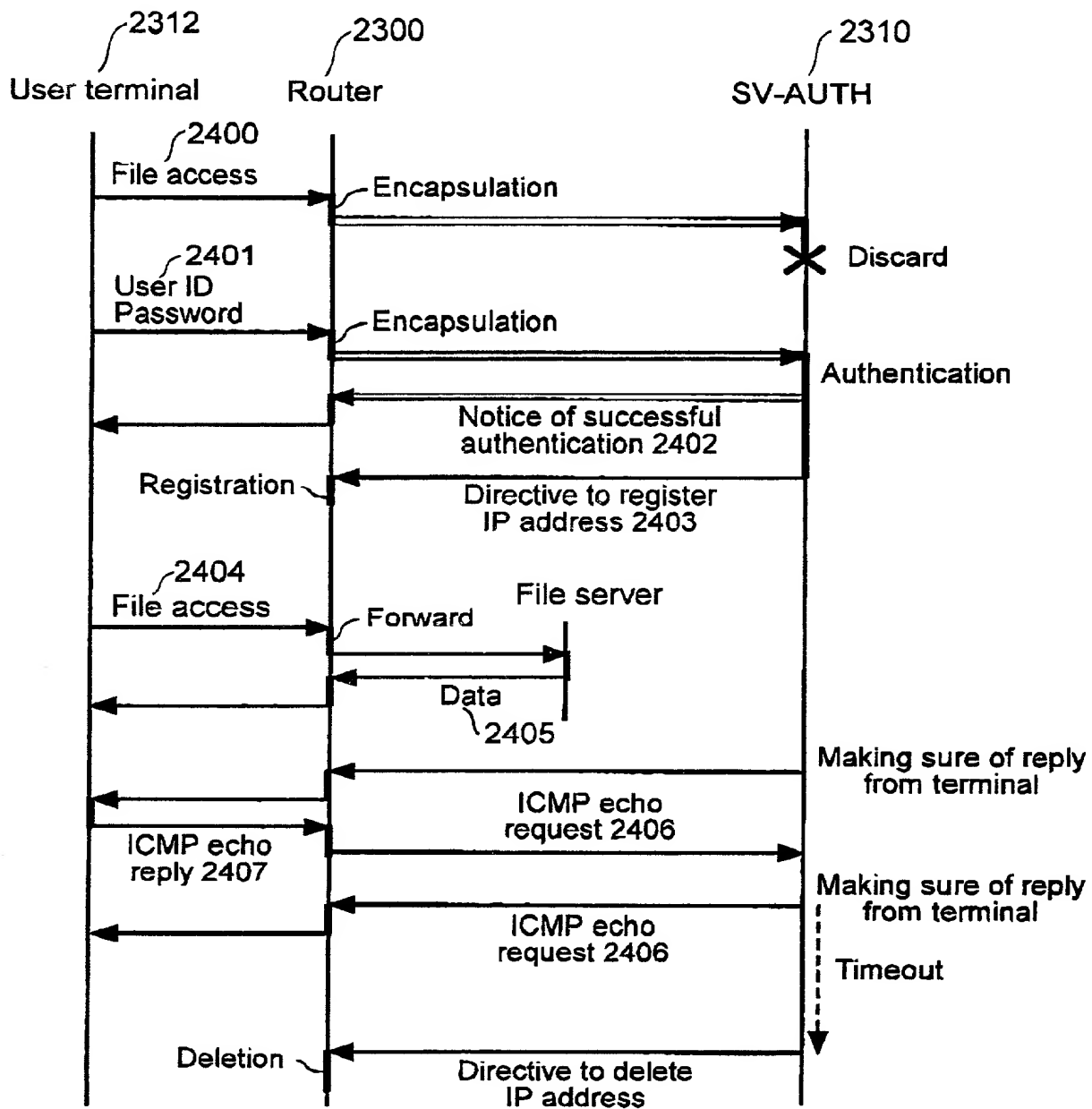


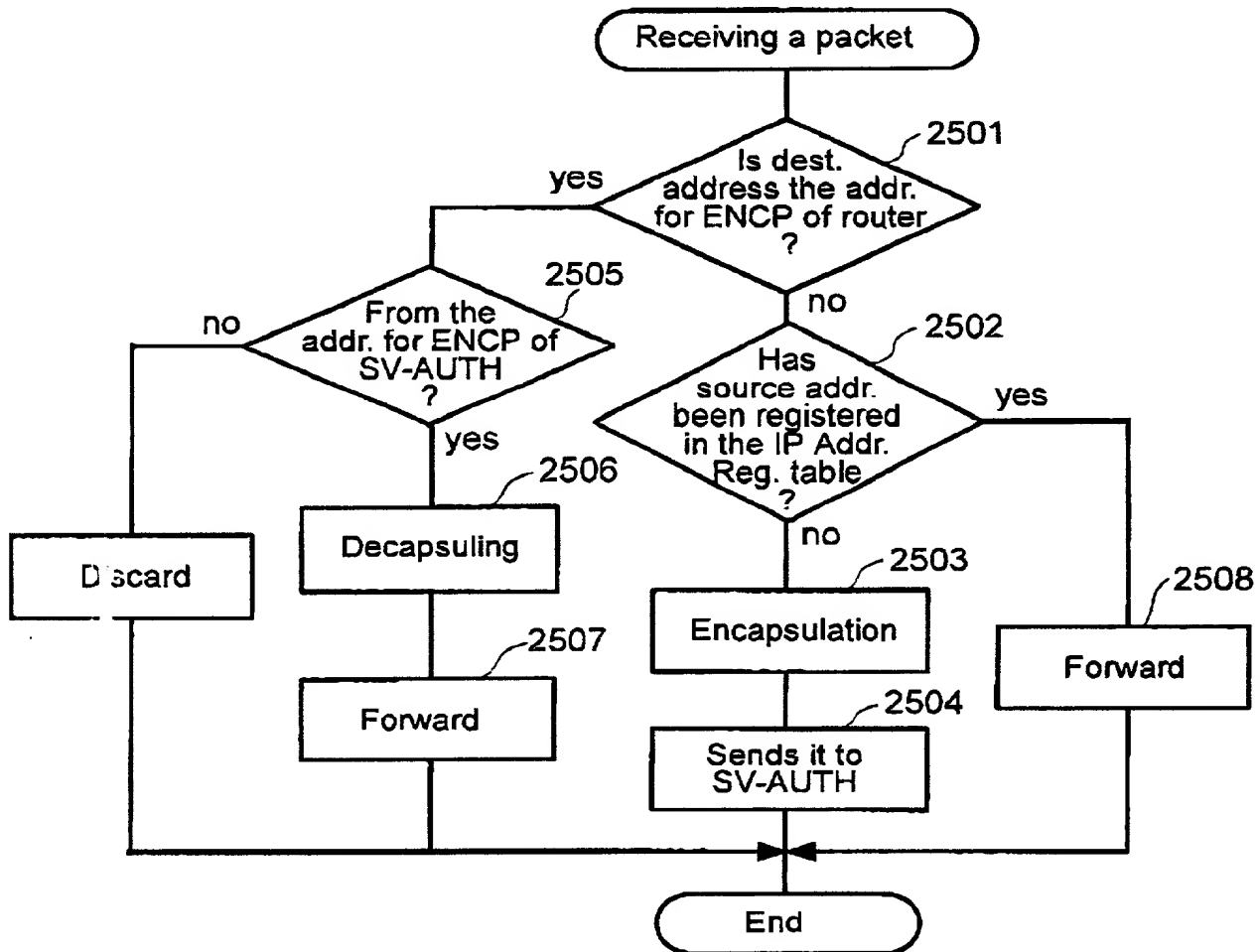
FIG.24



—————> Normal packet
 =====> Encapsulated and sent packet

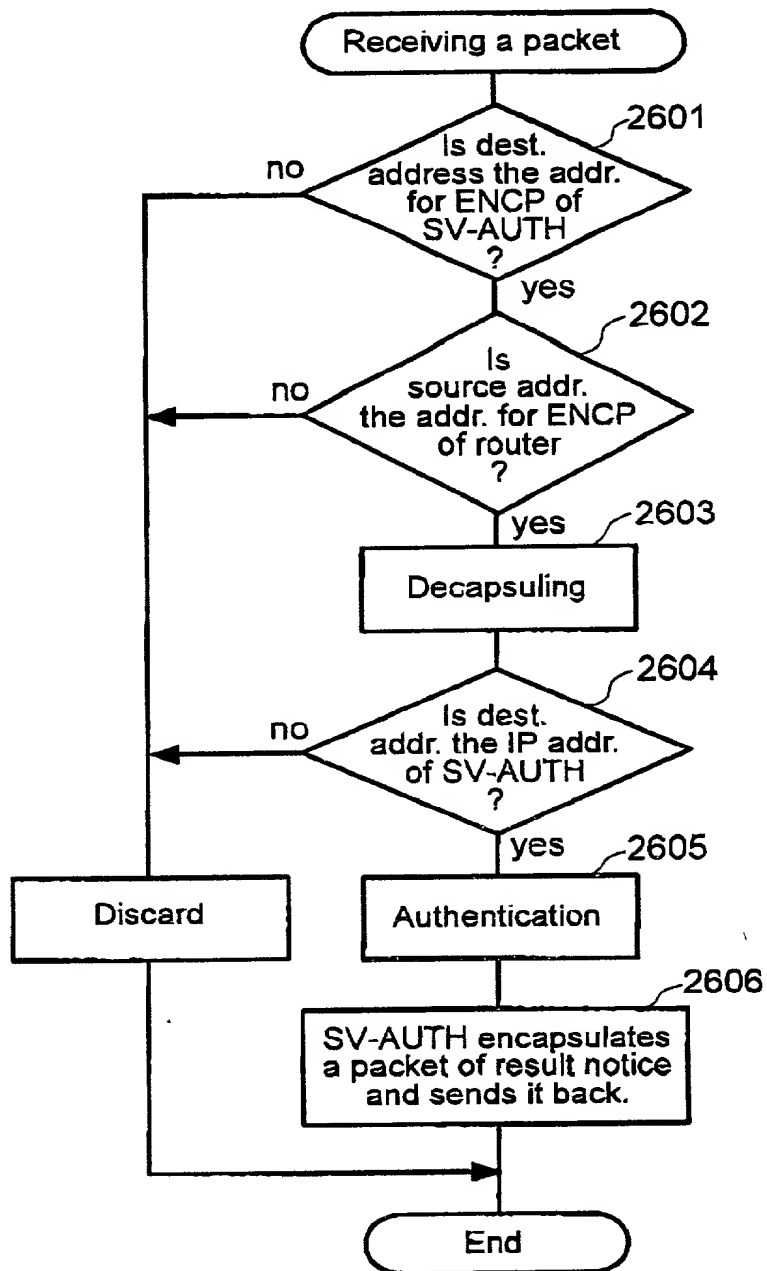
SV-AUTH : Server for Authentication

FIG.25



ENCP : Encapsulation
SV-AUTH : Server for Authentication

FIG.26



ENCP : Encapsulation
SV-AUTH : Server for Authentication

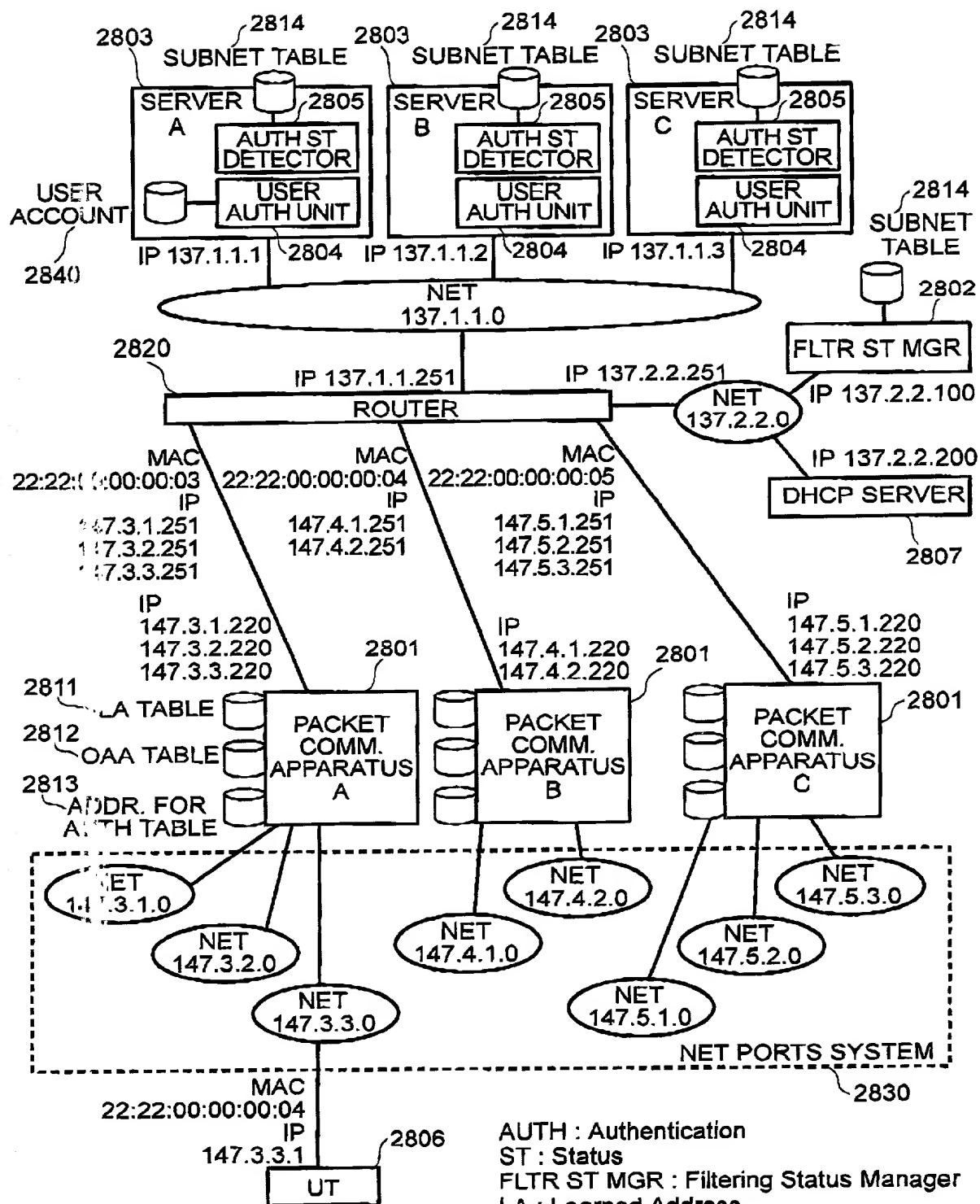
FIG.27

2306

192. 168. 10. 2
192. 168. 10. 10

FIG. 27

FIG.28



AUTH : Authentication
 ST : Status
 FLTR ST MGR : Filtering Status Manager
 LA : Learned Address
 OAA : Out-of-Authentication Address
 UT : User Terminal

FIG.29

SUBNET TABLE				
2814	2901	2902	2903	2904
#	Subnet Addr.	Subnet Mask	IP Addr. of FLTR ST MGR	IP Addr. of Packet comm. apparatus
1	147.3.1.0	255.255.255.0	137.2.2.100	147.3.1.220
2	147.3.2.0	255.255.255.0	137.2.2.100	147.3.1.220
3	147.3.3.0	255.255.255.0	137.2.2.100	147.3.1.220
4	147.4.1.0	255.255.255.0	137.2.2.100	147.4.1.220
5	147.4.2.0	255.255.255.0	137.2.2.100	147.4.1.220
6	147.5.1.0	255.255.255.0	137.2.2.100	147.5.1.220
7	147.5.2.0	255.255.255.0	137.2.2.100	147.5.1.220
8	147.5.3.0	255.255.255.0	137.2.2.100	147.5.1.220

FIG.30

TABLE. ADDRESS FOR AUTH

2813	#	Server Addr.
	1	137. 1. 1. 1
	2	137. 1. 1. 2
	3	137. 1. 1. 3

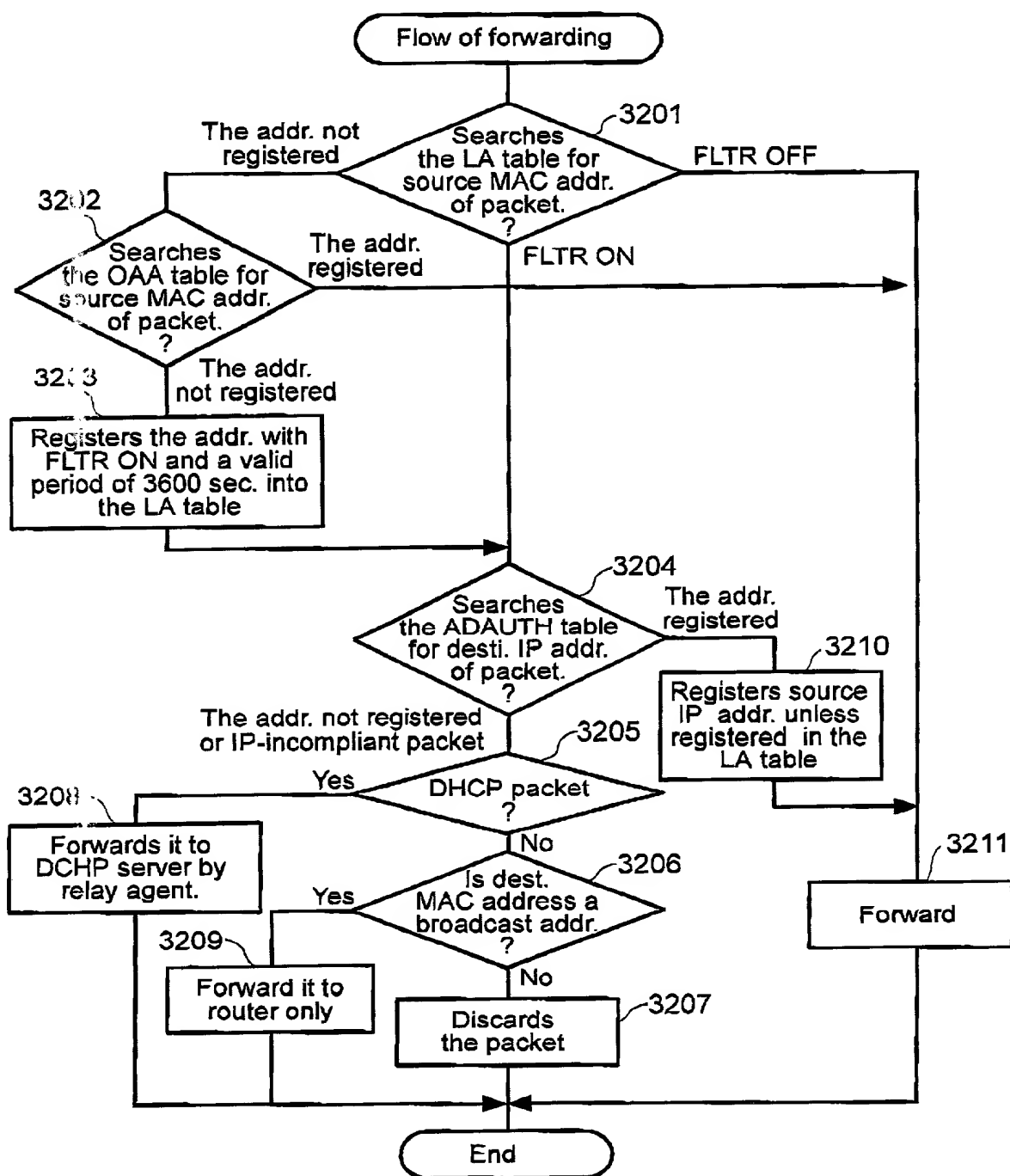
FIG.31

TABLE. OUT-OF-AUTH ADDRESS (PACKET COMM. APPARATUS A)

2812	#	Out-of-AUTH Addr.
	1	22:22:00:00:00:03

AUTH : Authentication
FLTR ST MGR : Filtering Status Manager

FIG.32



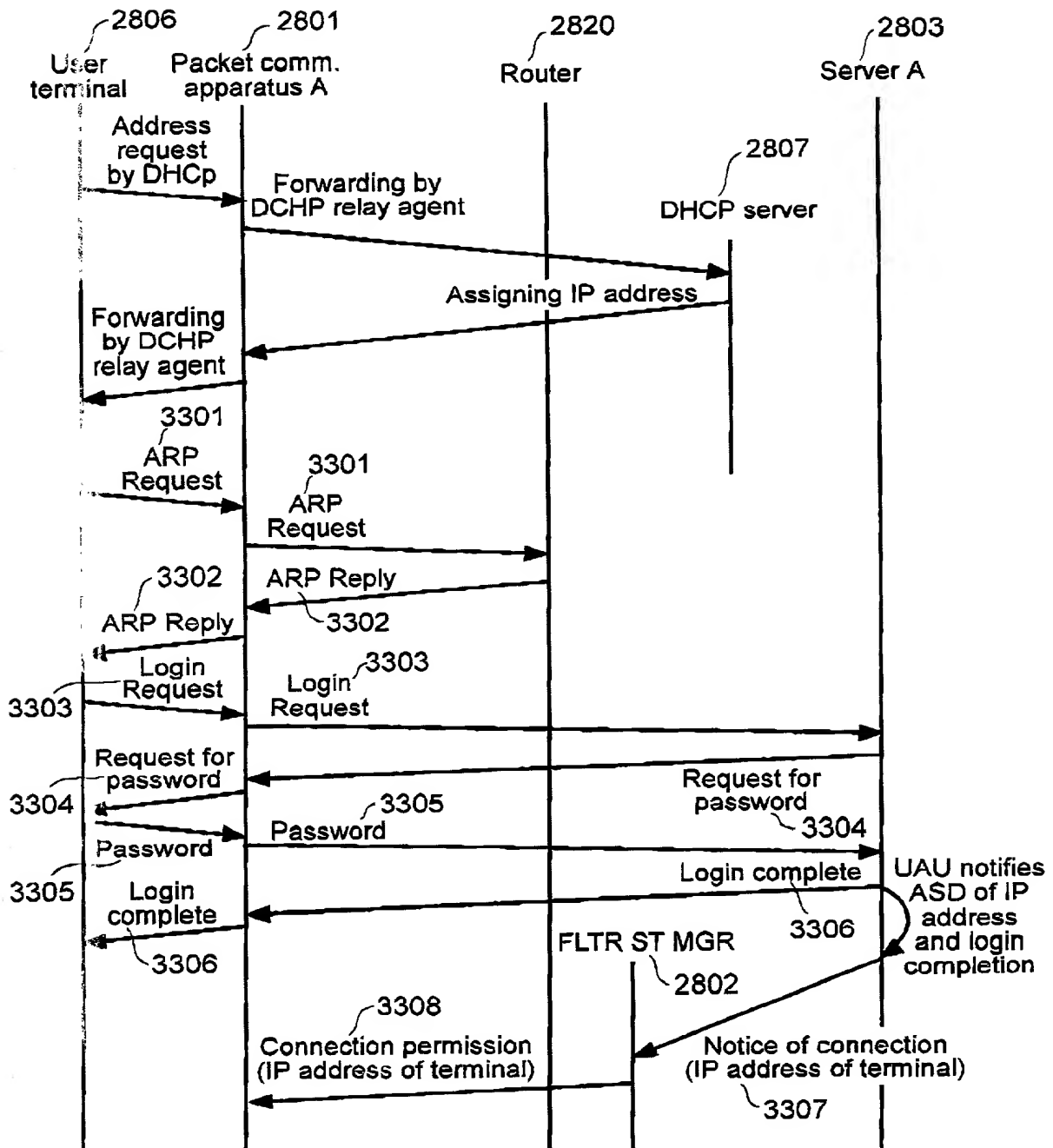
LA : Learned Address

OAA : Out-of-Authentication Address

FLTR : Filtering

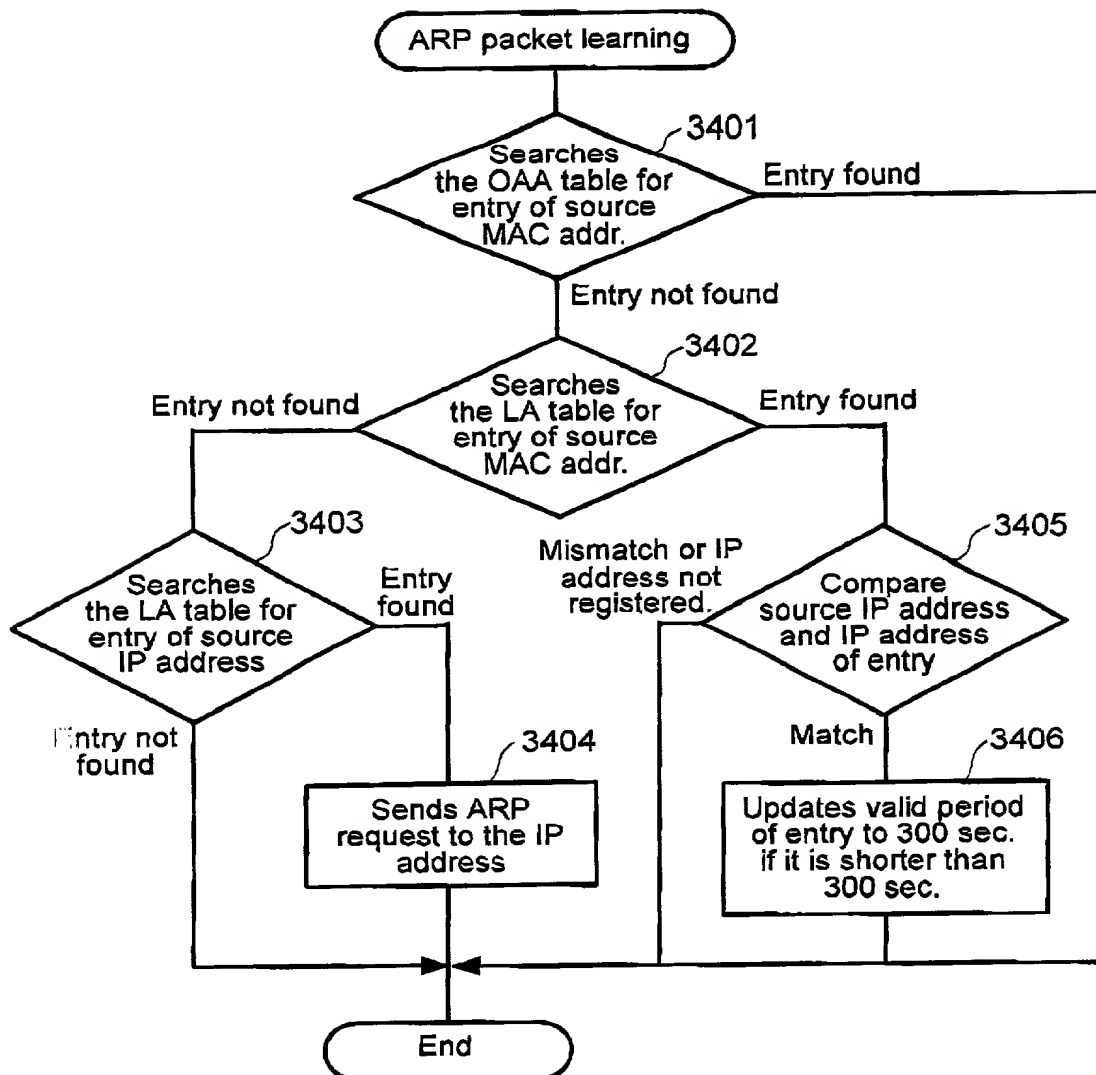
ADAUTH : Address for Authentication

FIG.33



UAU : User Authentication Unit
 ASD : Authentication States Detector
 FLTR ST MGR : Filtering Status Manager

FIG.34



LA : Learned Address

OAA : Out-of-Authentication Address

FIG.35

2811

LEARNED ADDR. TABLE

#	MAC Addr.	IP Addr.	Status	Valid Period
1	22:22:00:11:11:11	0.0.0.0	Filtering ON	3600 sec.

FIG.36

2811

LEARNED ADDR. TABLE

#	MAC Addr.	IP Addr.	Status	Valid Period
1	22:22:00:11:11:11	147.3.3.1	Filtering ON	3600 sec.

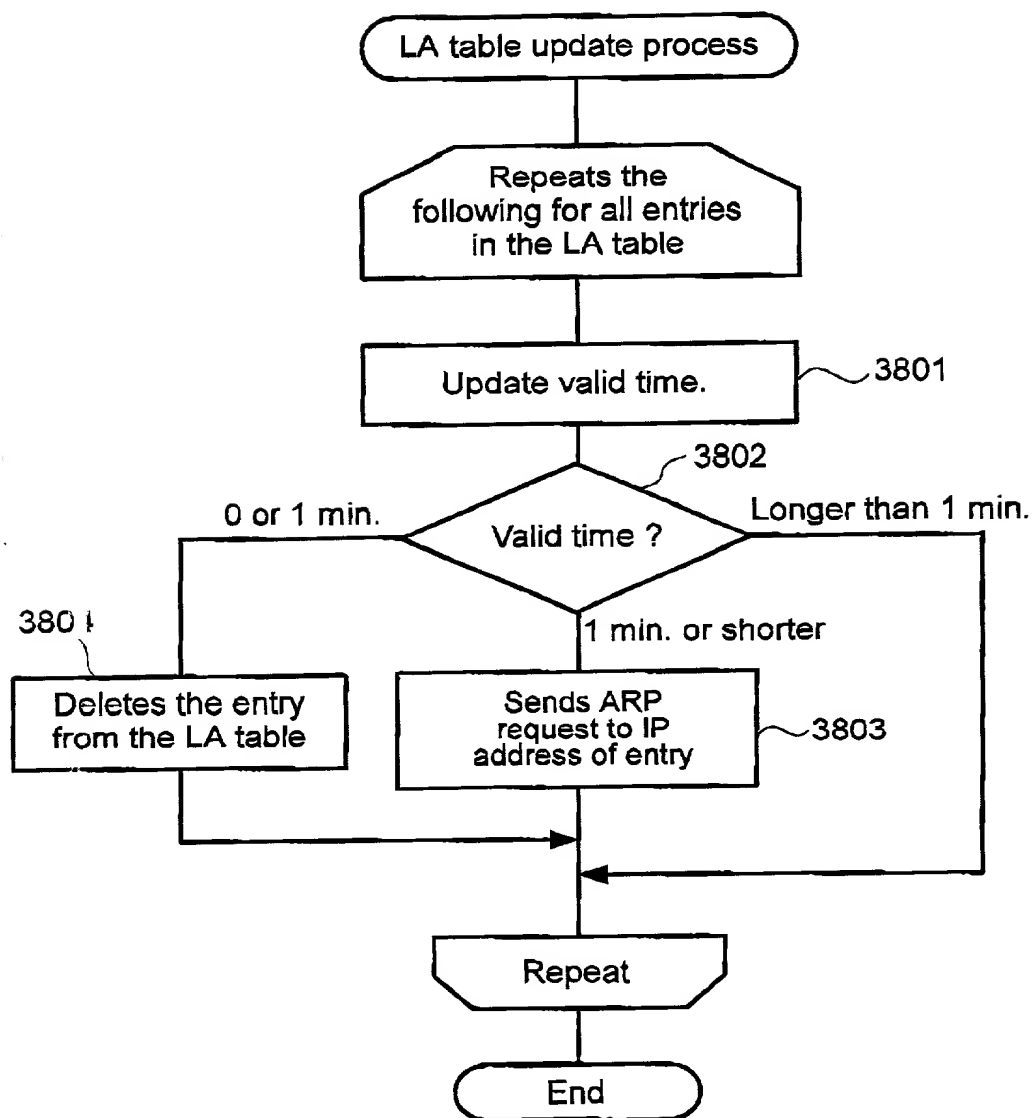
FIG.37

281

LEARNED ADDR. TABLE

#	MAC Addr.	IP Addr.	Status	Valid Period
1	22:22:00:11:11:11	147.3.3.1	Filtering OFF	300 sec.

FIG.38



LA : Learned Address